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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,671

10/24/2003

Tibor Boros

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05/04/2006

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EXAMINER

PHUONG, DAI

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/692,671	BOROS ET AL.	
	Examiner	Art Unit	
	Dai A. Phuong	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-13 and 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 15-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/24/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments, filed 03/09/2009, with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Claims 1-8 had canceled in the previous Office-Action mailed on 12/09/2005. Claim 14 has been canceled and claims 16-27 have been added. Claims 9-13 and 15-27 are currently pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9-12 and 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. 5912927) in view of Ohgami (U.S. 5,430,789).

Regarding claim 9, it is noted that the language used by Applicant merely suggests or makes optional those feature described as "operate" such language does not require steps to be performed or limits the claim to a particular structure.

Smith et al. disclose a communications device comprising: a transmitter coupled to an antenna array, the antenna array comprising a plurality of antenna elements (fig. 4, col. 3, line 42 to col. 4, line, 65), the transmitter *operable* to transmit a calibration burst by: the signals each transmitted from an antenna element of the two or more antenna elements corresponding to each signal (fig. 4, col. 3, line 42 to col. 4, line, 65).

However, Smith et al. do not disclose transmitting a first waveform from a first antenna element of the plurality of antenna elements, the first waveform comprising a combined signal that is a combination of two or more signals; and transmitting a second waveform from second antenna elements of the plurality of antenna elements.

In the same field of endeavor, Ohgami discloses transmitting a first waveform from a first antenna element of the plurality of antenna elements, the first waveform comprising a combined signal that is a combination of two or more signals (please see fig. 3, abstract and col. 2, lines 26-38); and transmitting a second waveform from second antenna elements of the plurality of antenna elements (please see fig. 3, abstract and col. 2, lines 26-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multi-channel digital transmitter of Smith et al. by specifically including transmitting a first waveform from a first antenna element of the plurality of antenna elements, the first waveform comprising a combined signal that is a combination of two or more signals; and transmitting a second waveform from second antenna elements of the plurality of antenna elements, as taught by Ohgami, the motivation being in order to prevent the total service breakdown of one of the cell zones which is serviced by a particular frequency range of transceiver panels.

Regarding claim 10, the combination of Smith et al. and Ohgami disclose all the limitation in claim 9. Further, Ohgami discloses the communications device wherein the first antenna element is one of the two or more antenna elements (fig. 3, col. 2, lines 26-38).

Regarding claim 11, the combination of Smith et al. and Ohgami disclose all the limitation in claim 9. Further, Ohgami discloses the communications device wherein the second waveform comprises a sum of the two or more signals (fig. 3, col. 2, lines 26-38).

Regarding claim 12, the combination of Smith et al. and Ohgami disclose all the limitation in claim 9. Further, Smith et al. disclose the communications device wherein the communications device comprises a base station of a radio communications network (fig. 4, col. 3, line 42 to col. 4, line, 65). In addition Ohgami disclose the communications device the communications device wherein the communications device comprises a base station of a radio communications network (col. 2, lines 57-68).

Regarding claim 15, the combination of Smith et al. and Ohgami disclose all the limitation in claim 9. Further, Smith et al. disclose the communications device wherein the first antenna element comprises a reference element with respect to which the other antenna elements are calibrated (fig. 4, col. 3, line 42 to col. 4, line, 65).

Regarding claim 16, the combination of Smith et al. and Ohgami disclose all the limitation in claim 9. Further, Smith et al. disclose the communications device wherein the communication device comprises a subscriber unit (fig. 4, col. 3, line 42 to col. 4, line, 65).

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 18, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 19, this claim is rejected for the same reason as set forth in claim 11.

Regarding claim 20, this claim is rejected for the same reason as set forth in claim 13.

Regarding claim 21, this claim is rejected for the same reason as set forth in claim 15.

Regarding claim 22, however, the combination of Smith et al. and Ohgami do not disclose in a subscriber unit, a method comprising: transmitting a first waveform from a first antenna element of a plurality of antenna elements coupled to the subscriber unit, the first waveform comprising a combined signal that is a combination of two or more signals; and transmitting a second waveform from two or more antenna elements of the plurality of antenna elements, the second waveform comprising the two or more signals each transmitted from an antenna element of the two or more antenna elements corresponding to each signal; wherein the subscriber unit is coupled to an antenna array, the antennas array comprising the plurality of antenna elements. It would have been obvious to one of ordinary skill in the art to modify the combination of Smith et al. and Ohgami by having the subscriber unit transmits a first waveform from a first antenna element of a plurality of antenna elements coupled to the subscriber unit, the first waveform comprising a combined signal that is a combination of two or more signals; and transmitting a second waveform from two or more antenna elements of the plurality of antenna elements, the second waveform comprising the two or more signals each transmitted from an antenna element of the two or more antenna elements corresponding to each signal; wherein the subscriber unit is coupled to an antenna array, the antennas array comprising the plurality of antenna elements, since the technique described by the combination of Smith et al. and Ohgami would perform equally well if operated at the system or device.

Regarding claim 23, the combination of Smith et al. and Ohgami disclose all the limitations in claim 22. Further, Smith et al. disclose the method wherein the subscriber unit is a radio transceiver remote to an array-equipped transceiver and transmits the first and second waveforms to the array-equipped transceiver (fig. 4, col. 3, line 42 to col. 4, line, 65).

Regarding claim 24, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 25, this claim is rejected for the same reason as set forth in claim 11.

Regarding claim 26, this claim is rejected for the same reason as set forth in claim 13.

Regarding claim 27, this claim is rejected for the same reason as set forth in claim 15.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (5912927) in view of Ohgami (U.S. 5,430,789) and further in view of Miya et al. (Pub. No: 2003/0186725).

Regarding claim 13, the combination of Smith et al. and Ohgami disclose all the limitation in claim 12. However, the combination of Smith et al. and Ohgami do not disclose communications device wherein the calibration burst is transmitted to a user terminal of the radio communications network, the user terminal being operable to use the calibration burst to assist in calibrating the base station.

In the same field of endeavor, Miya et al. disclose communications device wherein the calibration burst is transmitted to a user terminal of the radio communications network, the user terminal being operable to use the calibration burst to assist in calibrating the base station ([0021] to [0023] and [0065]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multi-channel digital transmitter of the combination of Smith et al. and Ohgami by specifically including the calibration burst is transmitted to a user terminal of the radio communications network, the user terminal being operable to use the calibration burst to assist in calibrating the base station, as taught by Miya et al., the motivation being in order to provide a calibration system for the array antenna radio communication apparatus

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capable of accurately detecting the delay characteristic and amplitude characteristic at the radio reception units.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bolgiano et al. (Pub. No: 20020105962) system with diversity transmission

Alamouti et al. (Pub. No: 20040234003) transmitter diversity technique

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramos Feliciano Eliseo can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

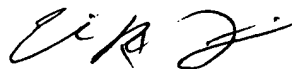
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong

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Date: 04-27-2006


ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER